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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/800,832

03/16/2004

Mikitsugu Suzuki

02-113

1399

23400

7590

06/13/2005

POSZ LAW GROUP, PLC
12040 SOUTH LAKES DRIVE
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RESTON, VA 20191

EXAMINER

NGUYEN, TRAN N

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/800,832	SUZUKI ET AL.	
	Examiner	Art Unit	
	Tran N. Nguyen	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12, 14 and 16-23 is/are rejected.
- 7) ☐ Claim(s) 2, 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0304</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. Claims 4-5, 11-12, 14, and 16-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, the following recitation:

all the circumferential angular extents of the thin wall portions of the plurality of the bridges *differ from one another* in each inner core sheet;

the circumferential angular extent of one of every axially adjacent two of the thin wall portions of the inner core sheets is substantially the *same* as the *circumferential angular extent* of the other one of the every axially adjacent two of the thin wall portions

this seems to be indefinite because the first part of the recitation states that all the circumferential angular extents are differ ; however, the later part of the recitation states that *the circumferential angular extent* of one of two adjacent thin wall portions is the same as the other. This is a discrepancy. How can all *circumferential angular extents are differ* but the *circumferential angular extents of two adjacent thin wall bridge portions are the same* ?

Claim 5 has similar indefinite issues as in claim 4.

In claim 11, the recitation:

all circumferential angular extents of the thin wall portions are generally **identical** to one another in each corresponding inner core sheet;

all the displacement angles of the circumferential centers of the thin wall portions are generally **identical** to one another in each corresponding inner core sheet;

the displacement angle of the circumferential center of one of every axially adjacent two of the thin wall portions of the inner core sheets **differs** from the displacement angle of the circumferential center of the other one of the every axially adjacent two of the thin wall portions”

this is indefinite because first the recitation sets the limitations that **all** circumferential angular extents and **all** the displacement angles of the circumferential centers of the thin wall portions are identical, then changing the limitations to the displacement angle of the circumferential center of one of every axially adjacent two of the thin wall portions differs from the other. It is confusing because the limitations seems to back and forth stating the displacement angles are all identical, then the displacement angles of two adjacent thin wall portions are different. This is a confusing discrepancy. If **all** the displacement angles of the circumferential centers of the thin wall portions are identical, then how could the two adjacent displacement angles of the circumferential centers of the thin wall portions are different?

In claim 12 (which depends from claim 11) the recitation, again, states that “*identical ones of the thin wall portions, which are generally identical to one another in term of the displacement angle*” this is confusing and indefinite because the limitations seems to back and forth stating the displacement angles are all identical, then the displacement angles of two adjacent thin wall

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portions are different. Also, the term “*identical ones* of thin wall portions” is unclear because **all circumferential angular extents** of the thin wall portions are generally **identical**, as well as **all the displacement angles of the circumferential centers** of the thin wall portions are also **identical**.

Claims 14 and 16-23 have similar indefinite issues as in claims 11-12.

In light of the specification, regarding the above listed claims’ recitations, the Examiner’s understanding is that the circumferential angular extents are *different* and the displacement angles of the circumferential centers of the thin wall portions are *different* from one another respectively.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 9** is rejected under 35 U.S.C. 102(b) as being fully anticipated by **Nishikawa et al (JP-09-019089)**.

Nishikawa discloses a stator for a dynamo-electric machine, the stator comprising:

a cylindrical outer core (12); and

an inner core that includes a plurality of inner core sheets stacked one after the other in an axial direction of the stator, wherein each inner core sheet includes: a plurality of iron core portions (18), each of which extends radially inward from the outer core to hold a corresponding coil (inherent but not shown in the drawings) of the dynamo-electric machine;

and a plurality of bridges, each of which connects between radially inner ends of corresponding two of the plurality of iron core portions,

wherein: each bridge of each inner core sheet includes a thin wall portion (24), which extends in a circumferential direction of the stator and has a smaller axial thickness in a direction parallel to the axial direction of the stator in comparison to the rest of the inner core sheet; and a circumferential center of the thin wall portion of each bridge is circumferentially displaced from a circumferential center of the bridge by a corresponding displacement angle in each inner core sheet, i.e., as Nishikawa's figs 1-2 and 5 shows that the displacement angle in each inner core sheet is arranged in equally spaced interval of the same displacement angle.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 4. Claims 1-7, 10, and claims 11-12, 14, 16-23 (as understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa (JP-09-019089) in view of Kimura et al (JP-2000-350389).**

Nishikawa discloses the claimed stator structure, particularly the plurality of bridges, each of which connects between radially inner ends of corresponding two of the plurality of iron core portions, wherein: each bridge of each inner core sheet includes a thin wall portion (24) that being formed by axially recessing at least one of two opposed surface thereof, and the bridge has a smaller axial thickness in a direction parallel to the axial direction of the stator in comparison to the rest of the inner core sheet. **Nishikawa** does not disclose the following:

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the plurality of bridges differs from that of at least another one of the thin wall portions, wherein: all the circumferential angular extents of the thin wall portions of the plurality of the bridges differ from one another; and the displacement angles of the circumferential centers of the thin wall portions are different from one another.

Kimura, however, teaches a magnetic core having a plurality of iron core portions (N1-N10), each of which extends radially from the core ring, wherein the radially extended core portions of the core sheet is circumferentially arranged so that the tip portions circumferentially forming the bridges therebetween being deviated at different angular intervals. Kimura teaches that such arrangement would reduce cogging and the irregularity of torque. Those skilled in the art would understand that generally Kimura teaches that to reduce cogging, the magnetic core's radially extended portion would have to be in irregular interval arrangement resulting in uneven bridge portions among thereof with different displacement angles of the circumferential centers of the bridge. By applying the Kimura's essential teaching, it would have been obvious to an artisan to re-configure the Nishikawa stator core so that the radially extend core portions' bridge portions at different angular that would result in the bridge portions also different in the angular extents and displacement angle of the circumferential for centers thereof for the purpose of reducing cogging and irregularity of the torque.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to apply the Kimura's teaching in order to modify the Nishikawa stator core so that the radially extend core portions' bridge portions at different angular that would result in the bridge portions also different in the angular extents and displacement angle of the circumferential for centers thereof. Doing so would reduce cogging and irregularity of the torque.

Allowable Subject Matter

Claims 8, 13, 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

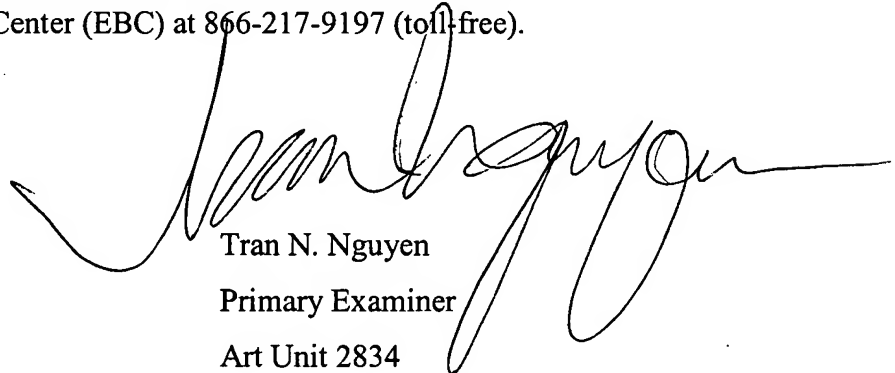
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tran N. Nguyen
Primary Examiner
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